

**State Water Resources Control Board
Central Valley Regional Water Quality
Control Board**

**Joint Workshop on Salinity
Issues in the Central Valley**

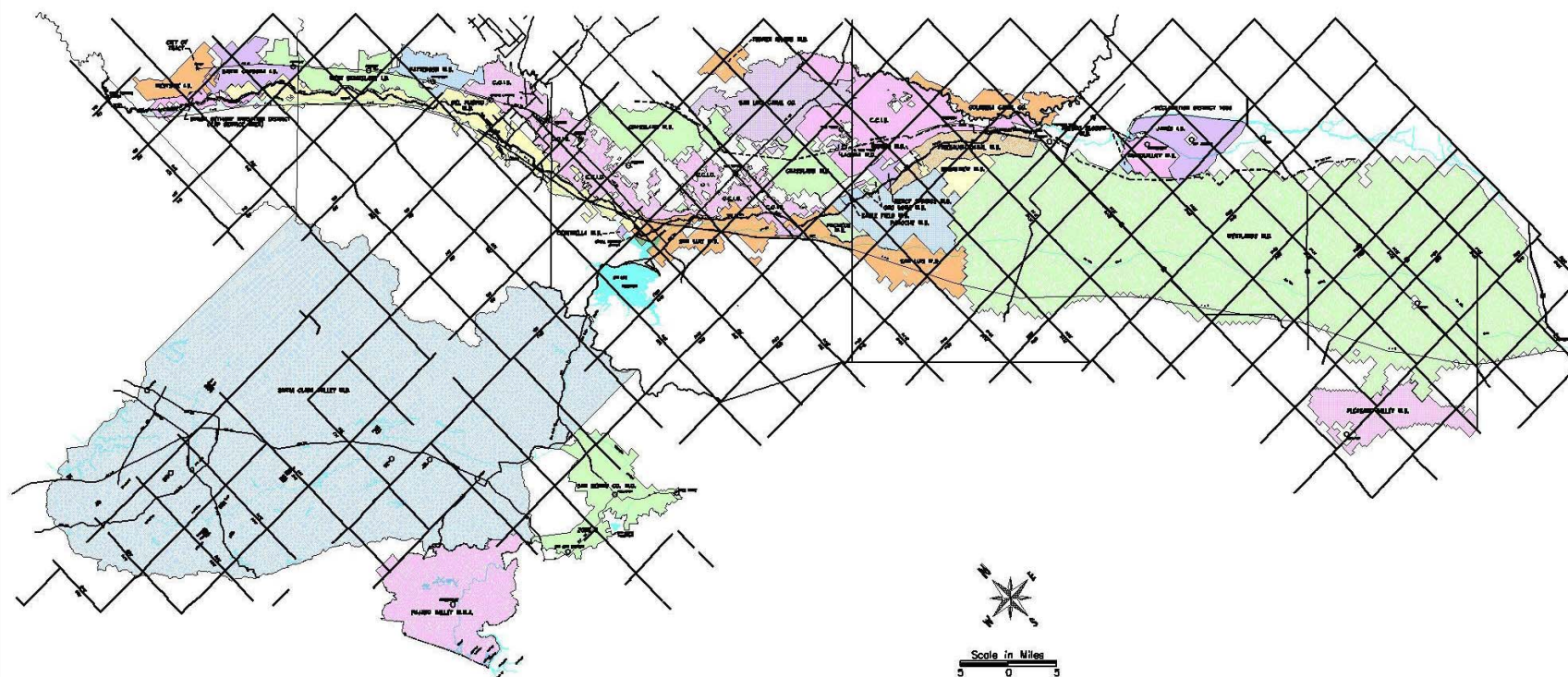
January 31, 2006

Comments on behalf of:

- San Luis & Delta-Mendota Water Authority**
- San Joaquin Valley Drainage Authority**
- San Joaquin River Exchange Contractors Water Authority**
 - Grassland Basin Drainers**

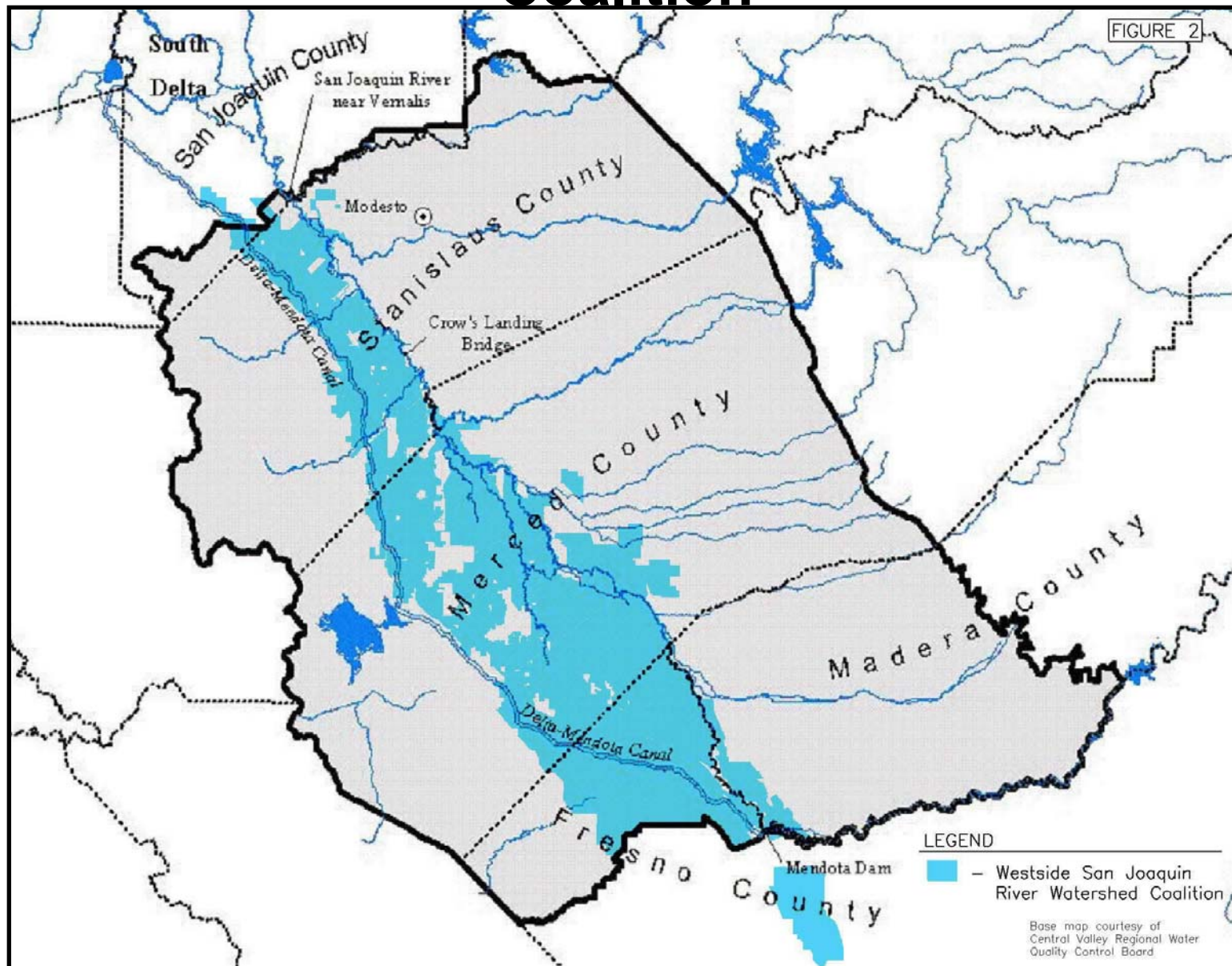
Joe McGahan

- Westside San Joaquin River Watershed Coalition
 - Grassland Bypass Project



SAN LUIS & DELTA-MENDOTA WATER AUTHORITY
Member Agencies

Westside San Joaquin River Watershed Coalition

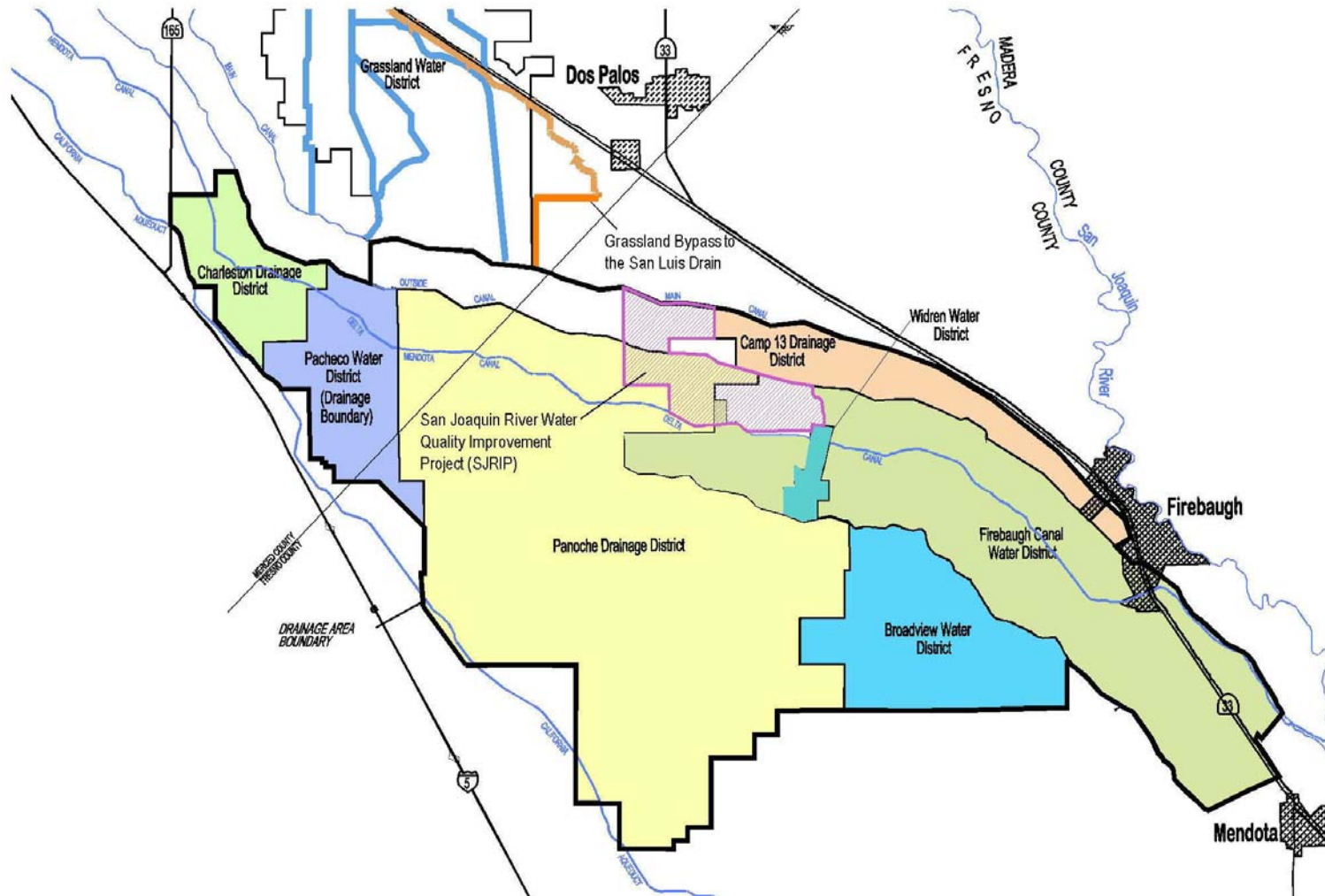


Development of Best Management Practices on the West Side of the San Joaquin Valley

- \$40 million projects set to be completed within the next 4 years
- 39 different projects

Example projects:

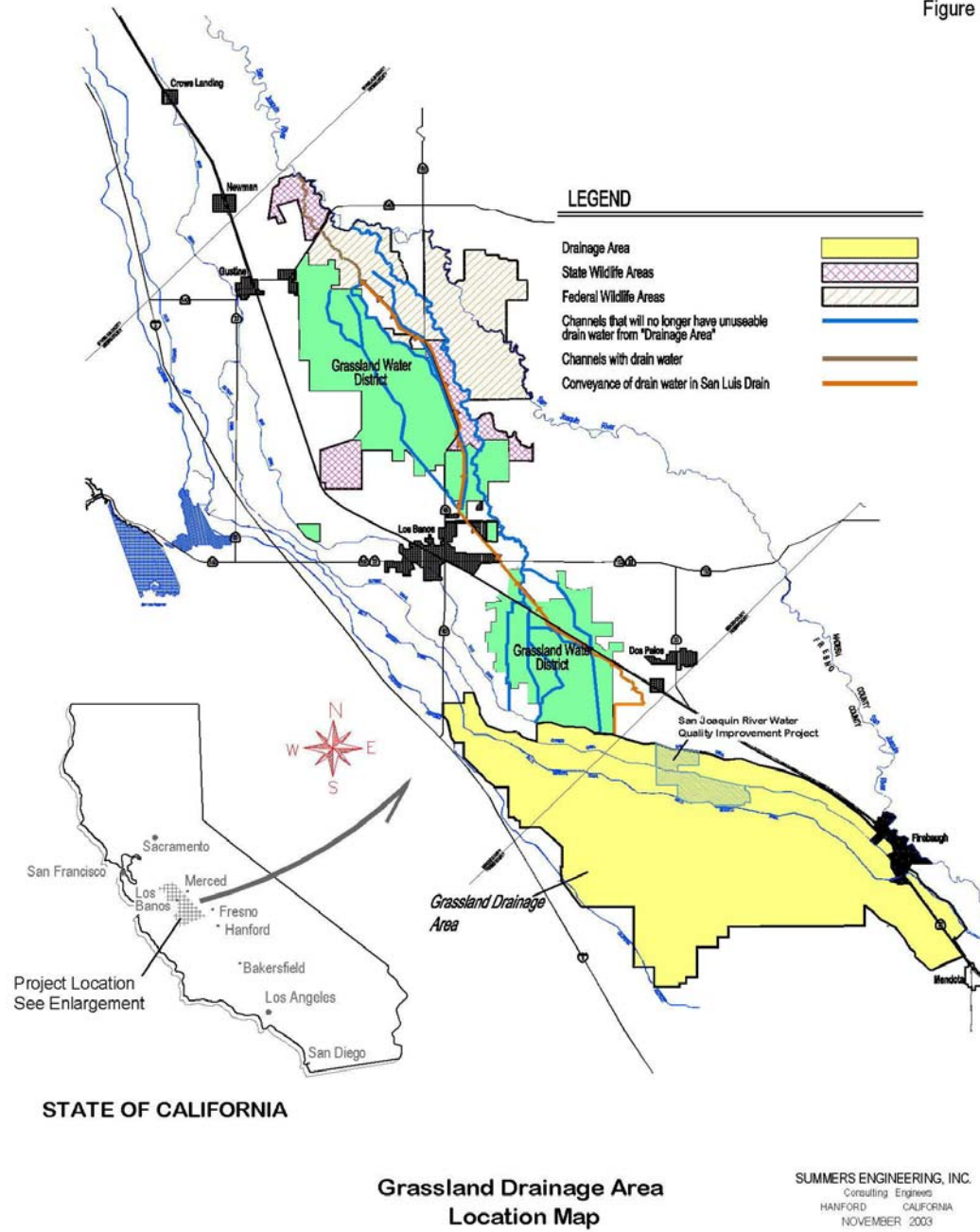
- Efficient Irrigation System Installation
- Pesticide and sediment BMP development
- Upstream dissolved oxygen studies
- Drainage treatment
- Reuse area infrastructure
- Panoche/Silver Creek watershed studies
- Tailwater return projects

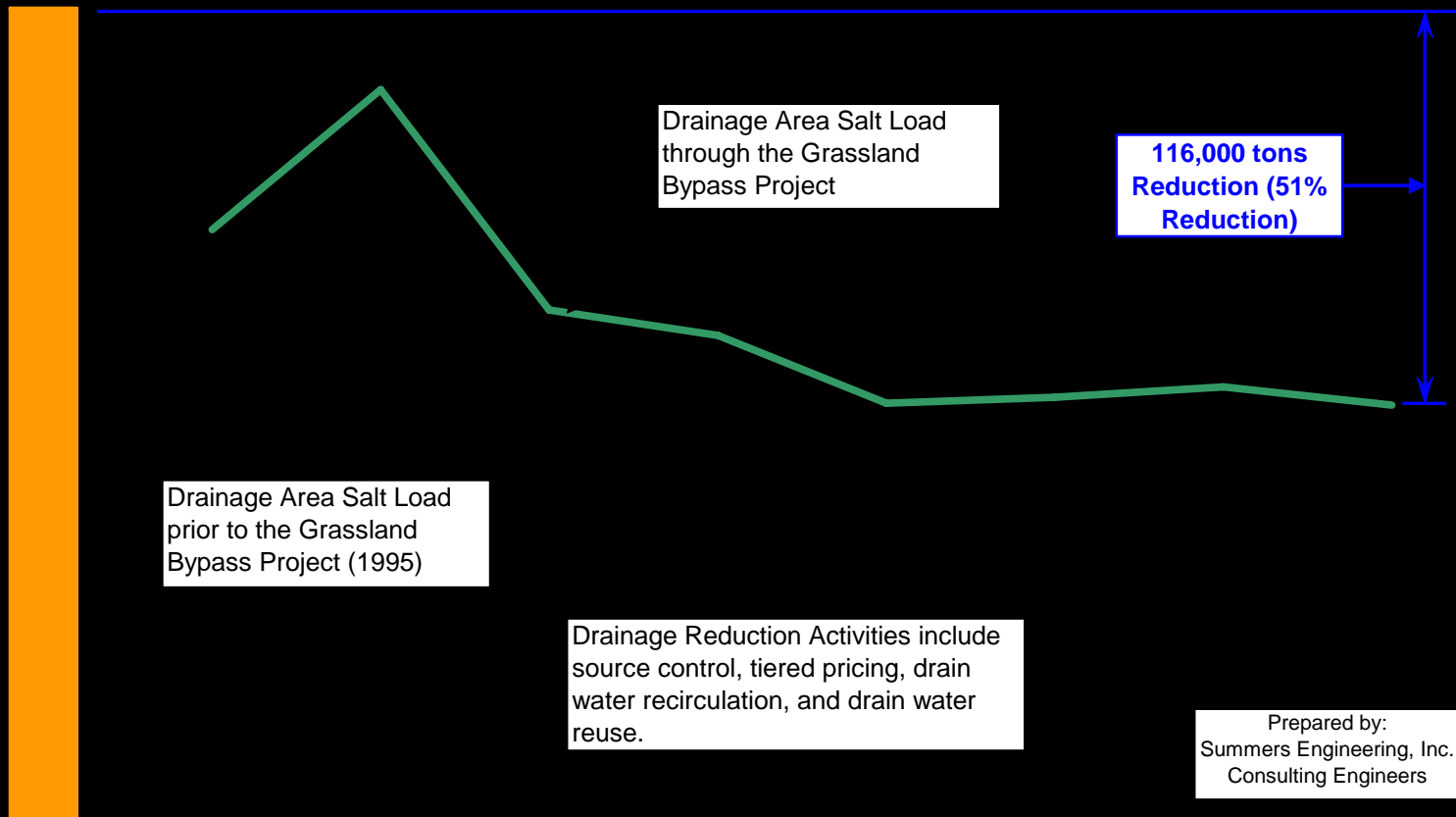


**Grassland Drainage Area
San Joaquin River Water Quality
Improvement Project
Location Map**

SUMMERS ENGINEERING, INC.
Consulting Engineers
HANFORD CALIFORNIA
SEPTEMBER 2003

Figure 1

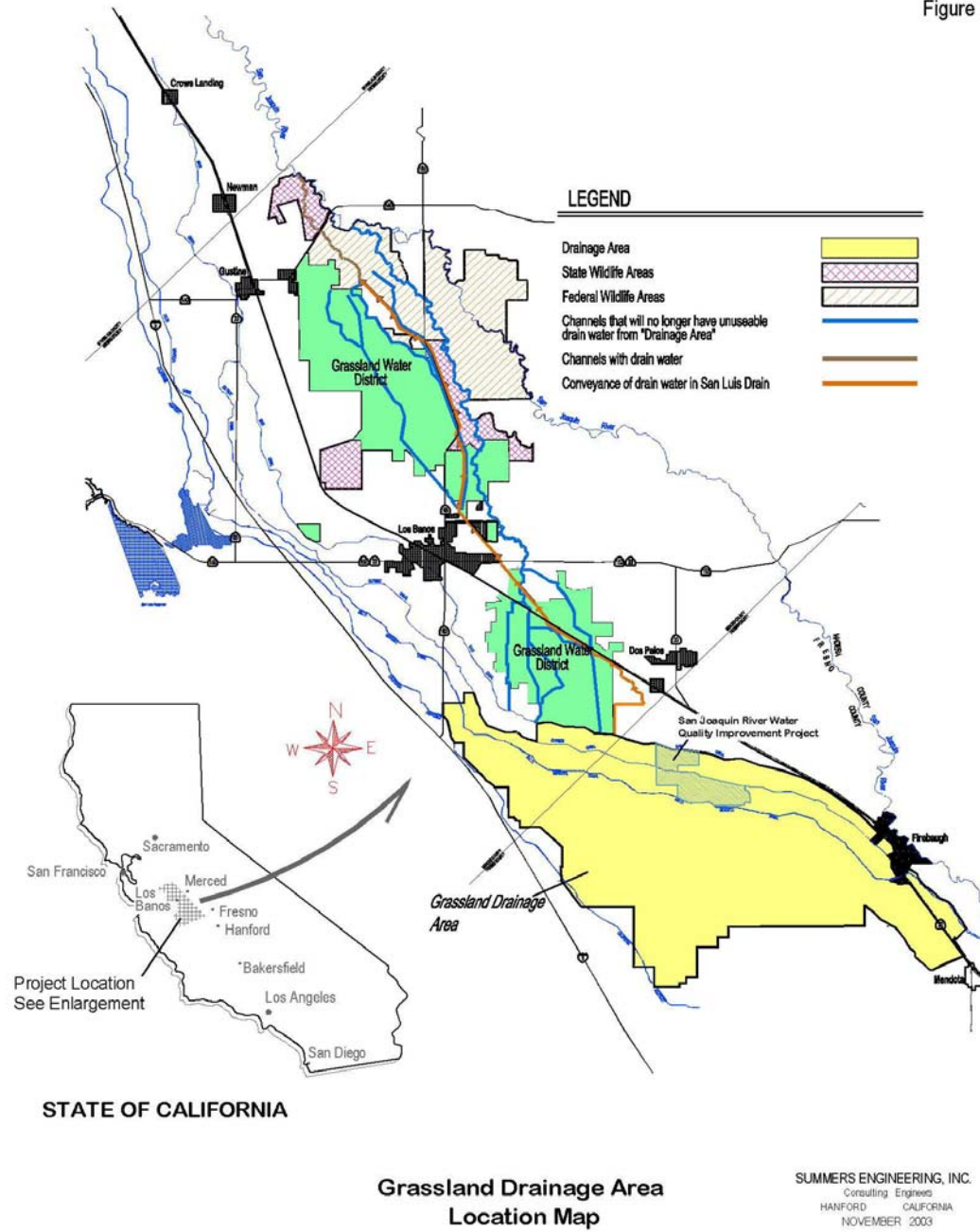


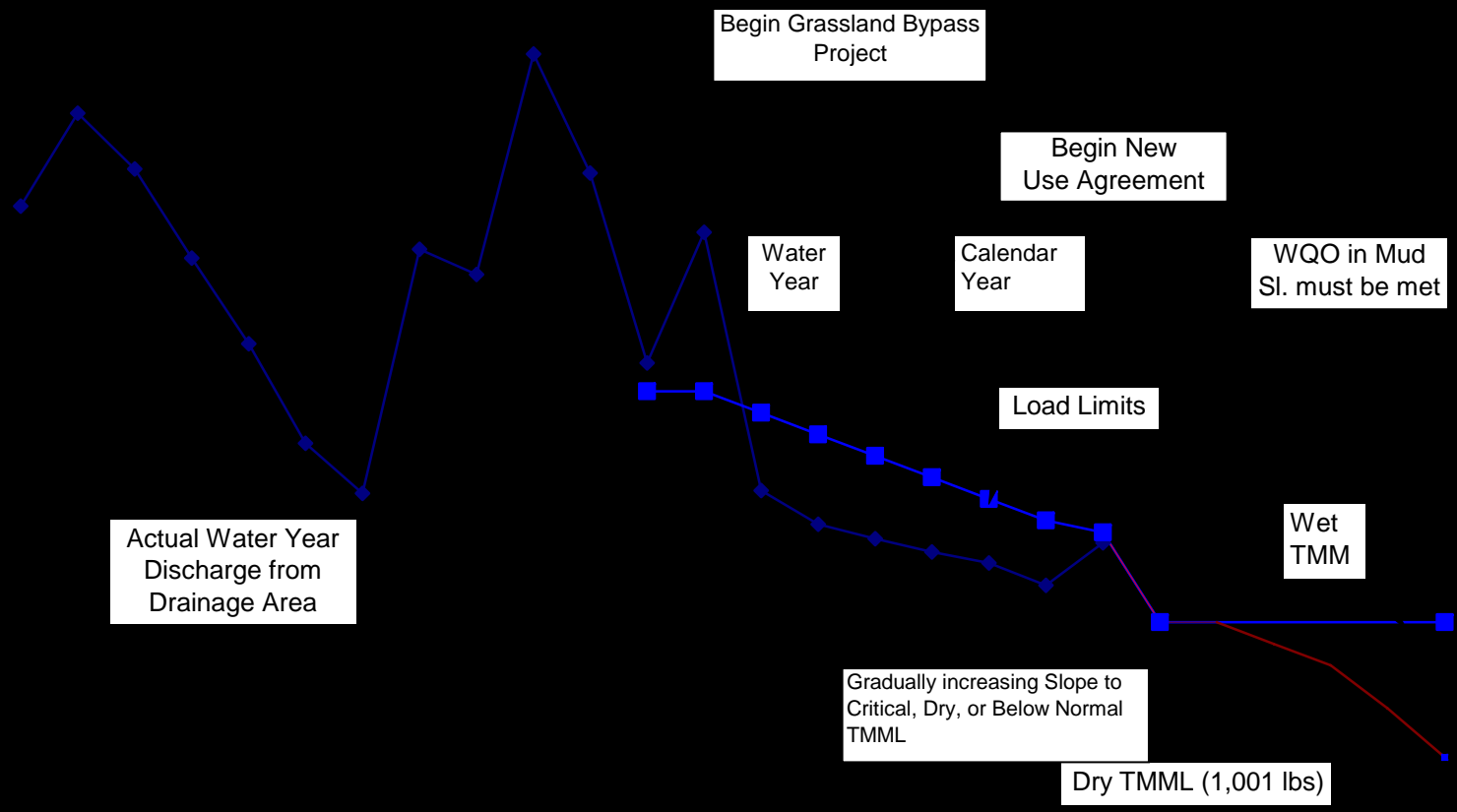


Dennis Falaschi – General Manager
Panoche Drainage District

- Background and SJRIP Drainage Reuse Project

Figure 1

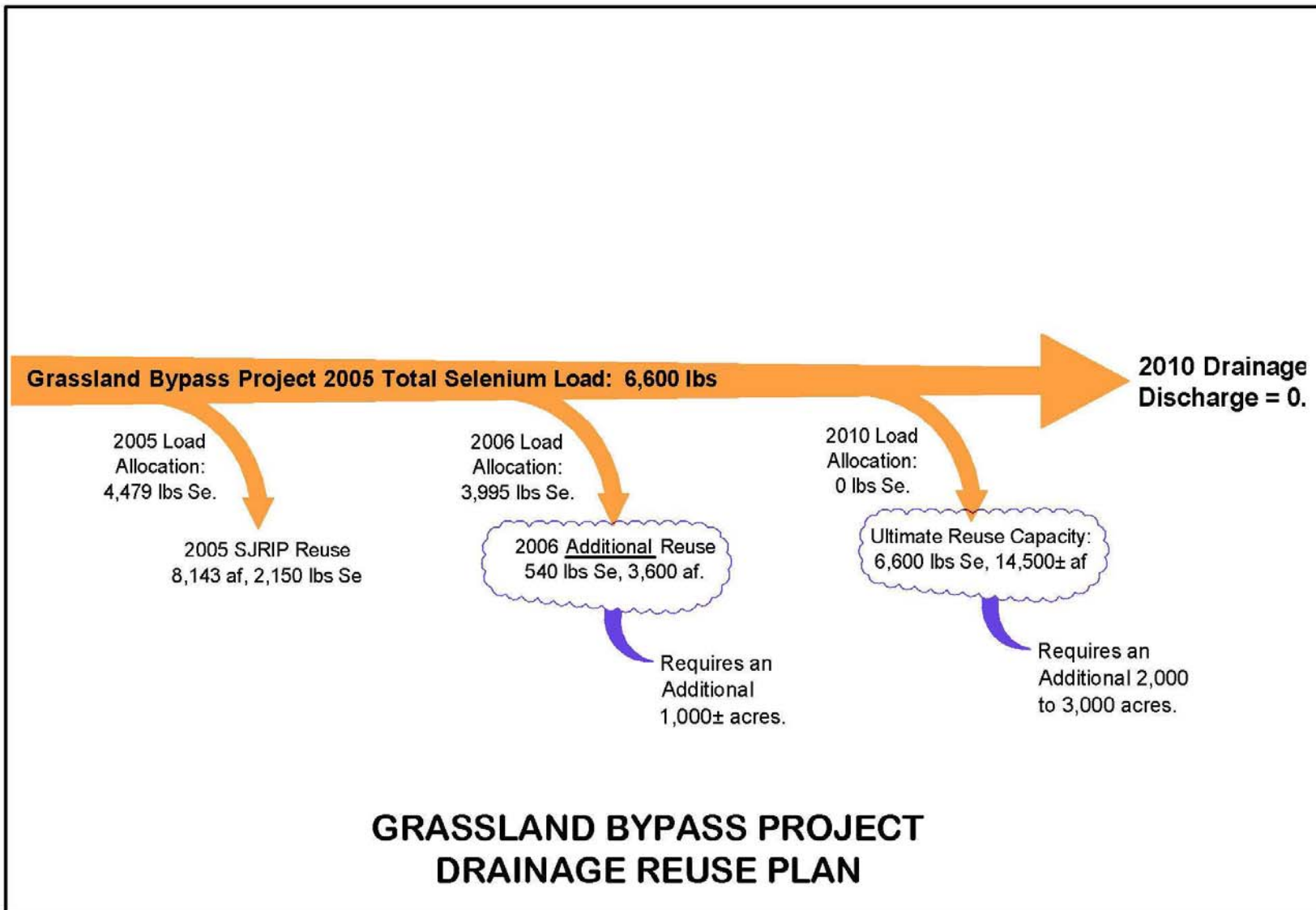




Drainage Plan to Achieve Reductions

Accomplished through:

- **Reuse of drain water**
- **Source Control**
- **Recirculation of drain water**
- **Treatment of drain water**
- **Groundwater Pumping** (following presentation)



Drainage Reuse

- **Current Project – San Joaquin River Improvement Project (SJRIP)**
 - 3,500 acres of salt tolerant crops
 - Reuse 8,100 af of drain water in 2005
 - Future expansion to about 6,000 acres
 - This provides immediate drainage relief while other projects are being implemented



Jose Tall Wheatgrass



Sunflowers

Source Control

- **Facility Improvements:** Canal lining and piping
- **Irrigation Improvements:**
 1. **Keep pre-irrigation to an absolute minimum (preferably less than 6")**
 2. **Improve irrigation systems**
 - Shorter water runs
 - Drip irrigation
 - Avoid over-watering
 3. **Tailwater Return Systems**



Drainage Recirculation

- All participating districts have implemented recycling



Drainage Treatment

- **Ultimate disposal for salt**
- **Currently in development**
 - Reverse Osmosis (RO) treatment and salt crystallization that will produce a clean water stream and a dry waste product.
- **Pilot Plant planned for this spring**

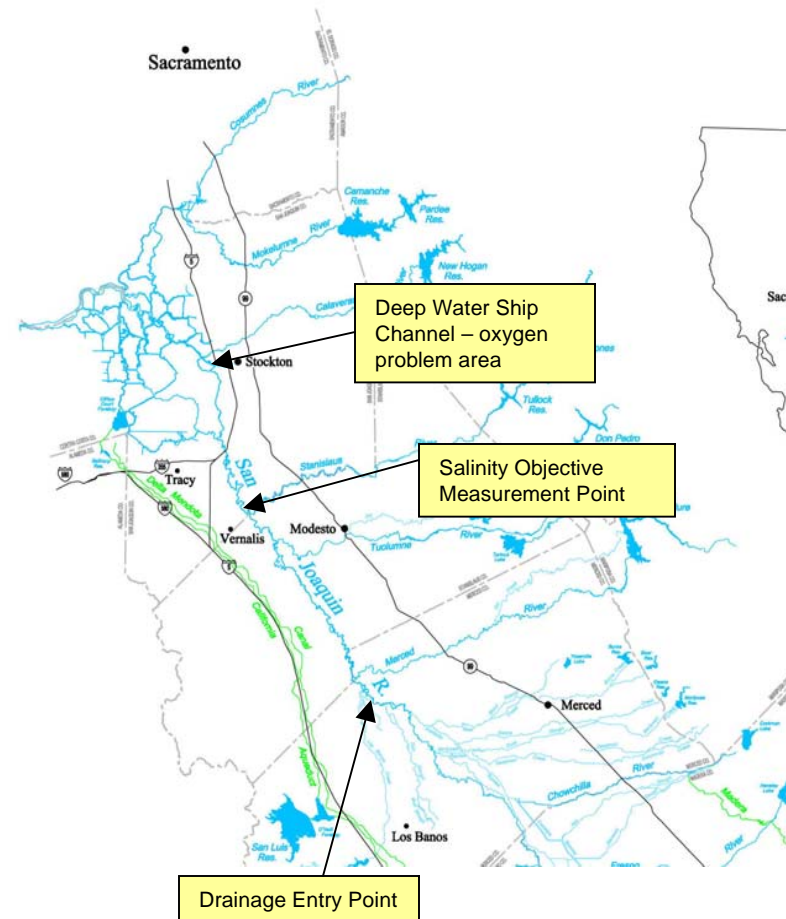


Chris White – General Manager, Central
California Irrigation District

- Development of Westside Regional
Drainage Plan

San Joaquin River Water Quality Issues and Drainage Plan Benefits

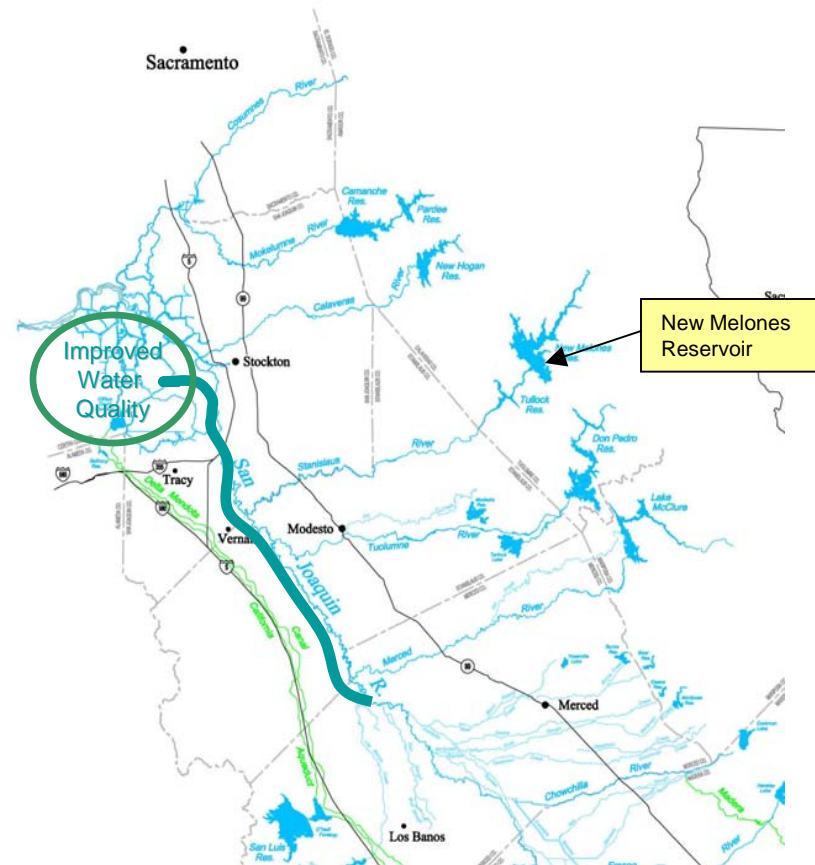
- San Joaquin River an Impaired Water Body under Clean Water Act
- Total Maximum Daily Load (TMDLs) adopted to address violations
 - Salinity: Restrict loads of salt
 - Dissolved oxygen: Restrict loads of oxygen demand, address flows and ship channel
- USBR Responsibility at Vernalis for Salinity

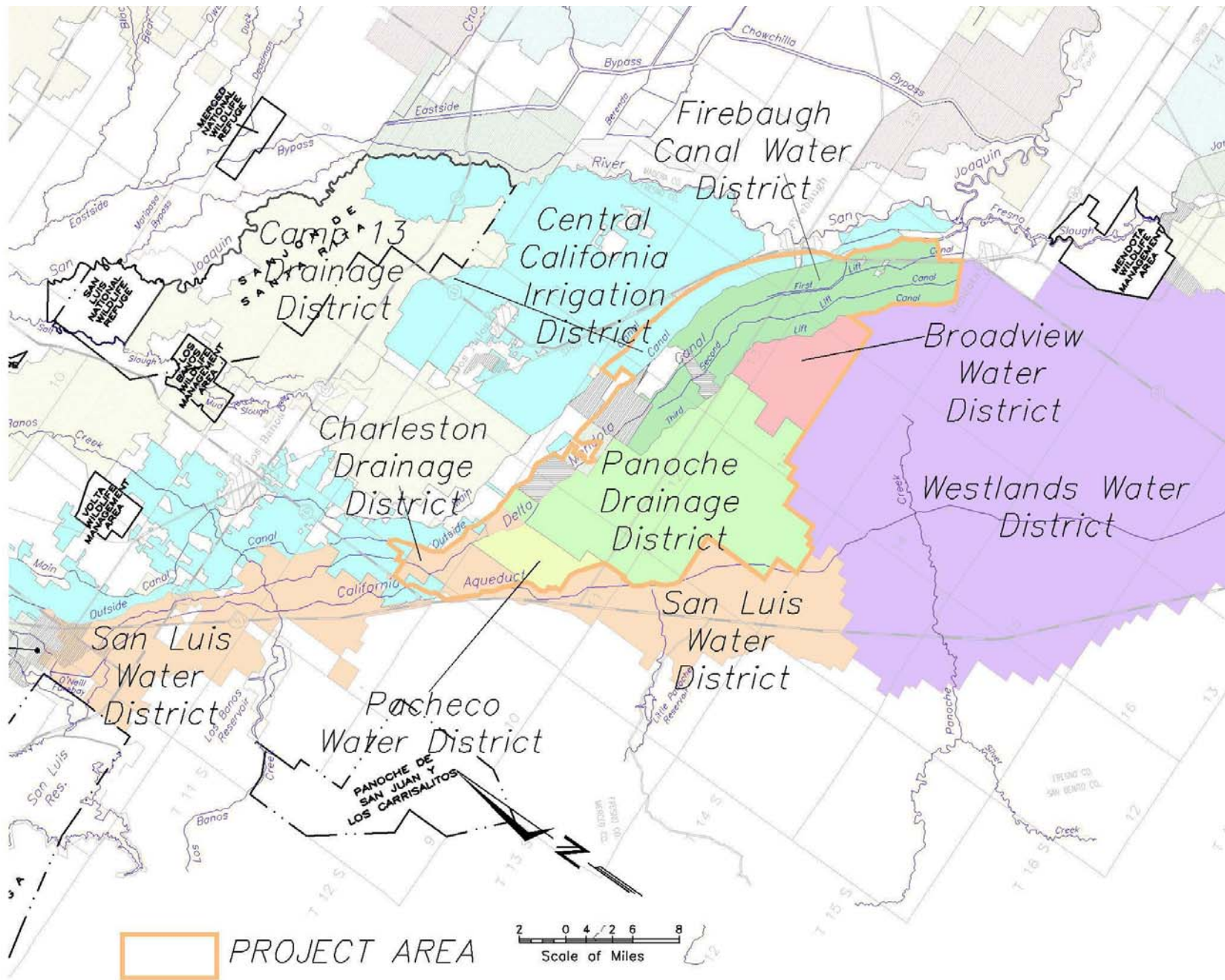


San Joaquin River Water Quality Issues and Drainage Plan Benefits (continued)

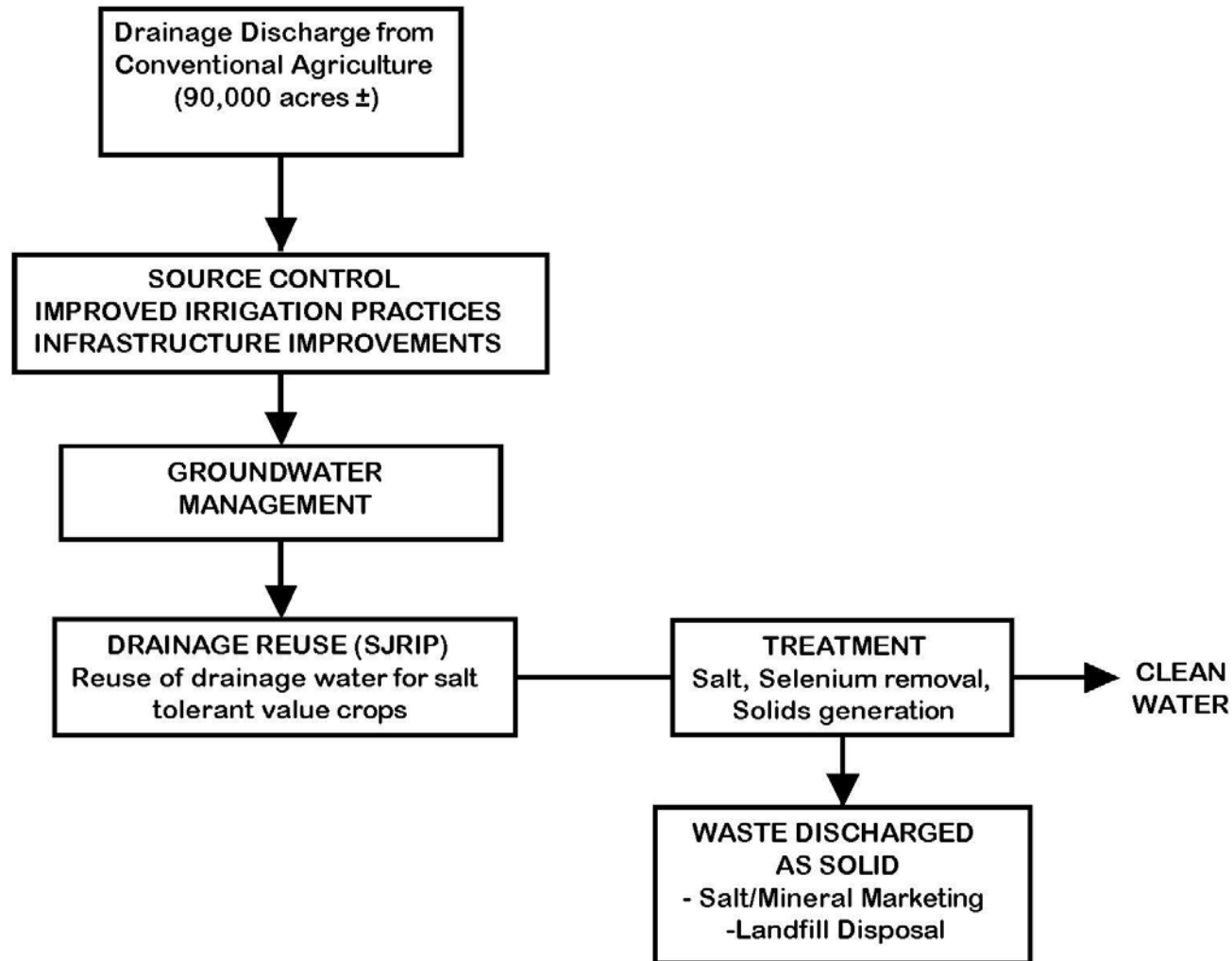
- Benefits of Plan

- Improves water quality for lower San Joaquin and Delta
- Reduces salt loads to assist compliance with salinity objective at Vernalis at all times
- Lessens need for New Melones releases; increases storage for other uses
- Removes impediment to CALFED Delta Improvements Package
- Plan is consistent with the USBR San Luis Unit Drainage Feature Re-evaluation

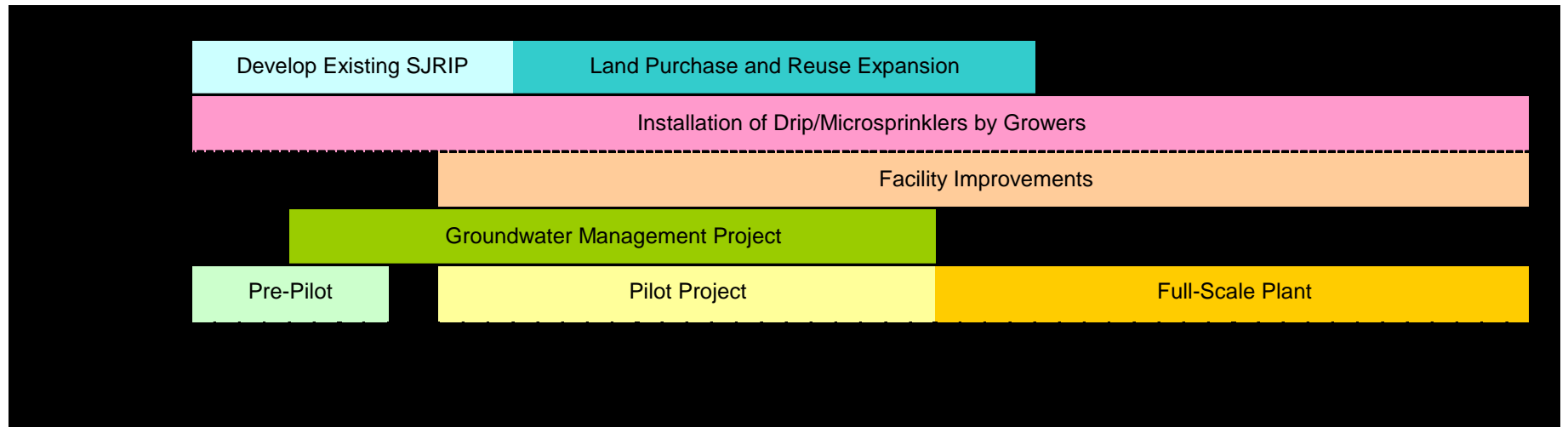




Solution – Westside Regional Drainage Plan



Project Timeline



Westside Regional Drainage Plan Funding – to date

Grassland Drainage Area Previous Funding for the In-Valley Drainage Solution

Project	Funding Source	Grant Funding	Loan Funding	District Funding	Total
Grassland Bypass Construction	SWRCB State Revolving Fund		\$ 600,000 *		\$ 600,000
Charleston D.D. Recirculation System	SWRCB State Revolving Fund		\$ 320,000 +		\$ 320,000
Charleston D.D. Recirculation System : CH-3	Charleston D.D.			\$ 71,200	\$ 71,200
Firebaugh Canal W.D. Recirculation Systems	Firebaugh Canal W.D.			\$ 271,100	\$ 271,100
Pacheco W.D. Drainwater Recirculation System	SWRCB State Revolving Fund	\$ 1,375,000	+		\$ 1,375,000
Panoche W.D. Drainwater Recirculation System	SWRCB State Revolving Fund	\$ 4,228,000	+		\$ 4,228,000
Pacheco W.D. Acquisition of Improved Irrigation Equipment	SWRCB State Revolving Fund	\$ 737,500	+		\$ 737,500
Panoche D.D. Acquisition of Improved Irrigation Equipment	SWRCB State Revolving Fund	\$ 4,997,294	*		\$ 4,997,294
Panoche D.D. Road Watering Project	Panoche D.D.			\$ 12,000	\$ 12,000
Westlands W.D. Acquisition and Retirement of Broadview W.D.	Westlands W.D.			\$ 27,000,000	\$ 27,000,000
San Joaquin River Improvement Project (SJRIIP)					
Land Purchase & Initial Development	Prop 13 (DA)	\$ 17,500,000			\$ 17,500,000
2004-05 Development Project	USBR	\$ 904,100		\$ 95,900	\$ 1,000,000
Halophyte Development Project	USBR	\$ 290,000		\$ 15,000	\$ 305,000
Grassland Integrated Drainage Management Proj.	Prop 13	\$ 987,200		\$ 246,800	\$ 1,234,000
PE-5 Pump Station	Panoche D.D.			\$ 13,200	\$ 13,200
		\$ 19,681,300	\$ 12,257,794	\$ 27,725,200	\$ 59,664,294

* Repaid by the District.

+ Repayment in Progress by District

•Includes \$27,000,000 for Broadview Purchase not included in written comments.

Westside Regional Drainage Plan Funding – future funding needed to complete implementation

- \$20,820,000 Reuse Project Expansion
- \$1,320,000 Broadview Water District Reuse Project
- \$20,640,000 Irrigation Improvements
- \$10,790,000 Conveyance Facilities Improvements
- \$23,430,000 Treatment and Disposal
- \$3,000,000 Westlands Water District Groundwater Pumping
- \$12,000,000 Deep Groundwater Pumping

\$92,000,000 Total